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In re Application of

Application Number

Filed

08/503606

Jul-18-1985

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United States Patent [19]

Short

[11] Patent Number:

5,958,672

[45] Date of Patent:

Sep. 28, 1999

[54] PROTEIN ACTIVITY SCREENING OF
CLONES HAVING DNA FROM
UNCULTIVATED MICROORGANISMS

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[21] Appl. No.: 08/657,409

[22] Filed: Jun. 3, 1996

Related U.S. Application Data

[63] Continuation-in-part of application No. 08/568,994, Dec. 7, 1995, abandoned, which is a continuation-in-part of application No. 08/503,606, Jul. 18, 1995.

[51] Int. Cl. C12Q 1/00; C12N 9/00

[52] U.S. Cl. 435/4; 435/183; 435/69.1;
536/23.1; 536/23.2

[58] Field of Search 435/4, 183, 69.1

[56] References Cited

U.S. PATENT DOCUMENTS

5,316,935 5/1994 Arnold et al. 435/222
5,352,778 10/1994 Comb et al. 536/23.2
5,783,431 7/1998 Peterson et al. 435/172.3
5,821,185 10/1998 Thompson et al. 435/6

FOREIGN PATENT DOCUMENTS

WO 91/16427 10/1991 WHO

OTHER PUBLICATIONS

Zhou, Y. et al. (1991) "Random mutagenesis of gene-sized DNA molecules by use of PCR with Taq DNA polymerase" *Nucleic Acids Research*, vol. 19, No. 21, p. 6052, Nov. 1991.
Kirshtein, J.D. et al. (1991) "Amplification, cloning, and sequencing of a nifH segment from aquatic microorganisms and natural communities" *Applied and Environmental Microbiology*, vol. 57, No. 9, pp. 2645-2650, Sep. 1991.
Ueda, T. et al. (1995) "Remarkable N₂-fixing bacterial diversity detected in rice roots by molecular evolution analysis of nifH gene sequences" *Journal of Bacteriology*, vol. 177, No. 5, pp. 1414-1417, Mar. 1995.
Mennecke, H. et al. (1985) "Concurrent evolution of nitrogenase genes and 16S rRNA in *Rhizobium* species and other nitrogen fixing bacteria" *Archives of Microbiology*, vol. 142, pp. 342-348, 1985.

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[57]

ABSTRACT

Disclosed is a process of screening clones having DNA from an uncultivated microorganism for a specified protein, e.g. enzyme, activity by screening for a specified protein, e.g. enzyme, activity in a library of clones prepared by (i) recovering DNA from a DNA population derived from at least one uncultivated microorganism; and (ii) transforming a host with recovered DNA to produce a library of clones which is screened for the specified protein, e.g. enzyme, activity.

15 Claims, 5 Drawing Sheets

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